

REMARKS

Claim 31 has been amended. No new matter has been added. Claims 31-44 are currently pending in this application.

Claims 31-44 stand rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement. This rejection is respectfully traversed.

The Examiner states that the phrase “approximately no metal chalcogenide agglomerations at the interface” presents new matter. Applicant respectfully disagrees. The Examiner also states that the term “approximately” renders the claims indefinite. As noted below, claim 31 has been amended to eliminate the term “approximately.”

Independent claim 31 recites “the second electrode and resistance variable chalcogenide comprising material operatively connecting at an interface.” Further, claim 31 has been amended to recite “no metal chalcogenide agglomerations at the interface.” The Specification explains that in the prior art, Ag₂Se (silver selenide, a metal chalcogenide) agglomerations were observed to form at the surface of the chalcogenide material layer. The agglomerations tended to create voids, whereby the underlying chalcogenide material can be exposed undesirably exposed to processing chemicals. Specification at 3-4. Further, the Specification clearly states that embodiments of the invention provide “the elimination of surface agglomeration of Ag₂Se,” from the surface of the chalcogenide material layer. Specification at 12. The specification further states that a second conductive electrode is formed over the chalcogenide material and, in one embodiment, is continuous and completely covers at least over the chalcogenide material. Specification at 13. Accordingly, the Specification clearly describes an embodiment of the invention having no metal chalcogenide agglomerations at the interface of the chalcogenide material layer and the second conductive electrode.

Thus, Applicants respectfully submit that the phrase “no metal chalcogenide agglomerations at the interface” does not constitute new matter. The phrase was described in the Specification in such a way as to reasonable convey to one of ordinary skill in the art at the time the application was filed that Applicants had possession of the claimed invention. Therefore, Applicants respectfully request withdrawal of this rejection.

Claims 31-34, 37, and 39 stand rejected under 35 U.S.C. § 102(a) as being anticipated by Ovshinsky, U.S. Reissued Patent No. 37,259 (Ovshinsky). This rejection is respectfully traversed.

Amended independent claim 31 recites a “non-volatile resistance variable device” comprising, *inter alia*, “the second electrode and resistance variable chalcogenide comprising material operatively connecting at an interface, the chalcogenide comprising material having a first region which is displaced from the interface at least by a chalcogenide material interface region having a higher content of “A” than the first region, and no metal chalcogenide agglomerations at the interface.” Ovshinsky, however, is silent about a lack of metal chalcogenide agglomerations at an interface between an electrode and a region of a chalcogenide comprising material. For at least these reasons, withdrawal of this rejection is respectfully requested.

Claims 34, 36, and 38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ovshinsky. This rejection is respectfully traversed.

In order for a reference to render a claim obvious, the reference must teach or suggest all the claim limitations. M.P.E.P., eight edition § 2142 (2001). As noted above, Ovshinsky does not teach or suggest all limitations of amended independent claim 31. For at least these reasons, withdrawal of this rejection is respectfully requested.

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In view of the above amendment, applicants believe the pending application is in condition for allowance.

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Respectfully submitted,

By 

Thomas J. D'Amico

Registration No.: 28,371

Elizabeth Parsons

Registration No.: 52,499

DICKSTEIN SHAPIRO MORIN &
OSHINSKY LLP

2101 L Street NW

Washington, DC 20037-1526

(202) 785-9700

Attorneys for Applicants